

Samantha N. Rich. A Survey of Makerspaces in Academic Libraries. A Master's Paper for the M.S. in L.S degree. April, 2014. 26 pages. Advisor: Ronald E. Bergquist.

Library literature related to makerspaces often concentrates on makerspaces within public and school libraries. This study seeks to fill the gap in the existing literature by focusing on role of makerspaces in academic libraries. This study describes a questionnaire survey of academic library makerspaces across the United States. The survey was conducted to determine how makerspaces complement the missions of their host library, how academic libraries utilize makerspaces as pedagogical tools, and why academic libraries serve as good locations for makerspaces.

Librarians from twelve academic library makerspaces responded to the survey. The democratization of technology, the maintenance of the library's perception as a leader in technology innovation, and the need to support scholarship are the most cited reasons for including a makerspace in an academic library of the libraries surveyed. The survey also revealed that workshops and personal consultations are the most popular type of makerspace instruction.

#### Headings:

Academic libraries – Research

Library surveys

Technological literacy

Educational technology

3D printing

# A SURVEY OF MAKERSPACES IN ACADEMIC LIBRARIES

by  
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A Master's paper submitted to the faculty  
of the School of Information and Library Science  
of the University of North Carolina at Chapel Hill  
in partial fulfillment of the requirements  
for the degree of Master of Science in  
Library Science.

Chapel Hill, North Carolina

April 2014

Approved by

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## Introduction

The growth of the maker movement within the past few years has prompted an emphasis on making within classrooms, community centers, and libraries across the country. The maker movement values creative, collaborative thinking and, of course, making. Making is described as “a gateway to deeper engagement” in science, engineering, art, and design.<sup>1</sup> The movement was “spurred by the introduction of new technologies such as 3D printing and the Arduino microcontroller; new opportunities created by faster prototyping and fabrication tools as well as easier sourcing of parts and direct distribution of physical products online; and the increasing participation of all kinds of people in interconnected communities...”<sup>2</sup> It is no surprise then that this community of makers congregates in collaborative workshops, called makerspaces, where they can share ideas and access to technology.

There are many ways to define and describe makerspaces. According to Lauren Britton, “Makerspaces give people the tools to create, hack, and remake their world for the better. They give people the ability to...create local solutions to local problems.”<sup>3</sup> Maker Media’s *Makerspace Playbook* states, “Makerspaces share some aspects of the

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<sup>1</sup> Michelle Hlubinka et al., *Makerspace Playbook*, December 2012, quoted in Tod Colegrove, “Libraries as Makerspace?” *Information Technology and Libraries*, March 2013, available from [http://www.academia.edu/3041825/Libraries\\_as\\_makerspace](http://www.academia.edu/3041825/Libraries_as_makerspace), accessed June 12, 2013.

<sup>2</sup> Dale Dougherty, “The Maker Mindset,” available from <http://llk.media.mit.edu/courses/readings/maker-mindset.pdf>, accessed March 15, 2014.

<sup>3</sup> Lauren Britton, “A Fabulous Laboratory: The Makerspace at Fayetteville Free Library,” *Public Libraries* 5, no.4 (August 2012), accessed June 14, 2014.

shop class, home economics class, the art studio, and the science lab. In effect, a makerspace is a physical mashup of these different places that allows projects to integrate these different kinds of skills.”<sup>4</sup> With an emphasis on problem solving, science, art, and design, schools and libraries seem like natural places to house makerspaces. Education is a major goal of the maker movement and, as Dale Dougherty, the creator of *Make* magazine describes, its biggest challenge and opportunity.<sup>5</sup>

This paper seeks to analyze the place of makerspaces in academic libraries. More specifically, this paper analyzes how the goals of the maker movement complement the missions of academic libraries. A survey of makerspaces in academic libraries reveals how academic libraries are using makerspaces as pedagogical tools to help students engage with technology and become better makers. For the purpose of this paper, an academic library is defined as a library that serves a college or university and is not restricted to size or Carnegie Classification.

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<sup>4</sup> Hlubinka et al., *Makerspace Playbook*.

<sup>5</sup> Dougherty, “The Maker Mindset.”

## Literature Review

The maker movement is a relatively new phenomenon; even newer is the concept of the makerspace. An analysis of library literature reveals that much of the material related to library makerspaces has been published within the past three years, often as open-access articles on websites, forums, and blogs. The time and resources required to establish makerspaces further delays the presence of makerspaces in scholarly library literature. This review is an analysis of popular and scholarly literature related to academic and public library makerspaces. It is necessary to supplement this literature review with resources related to public libraries because of the shortage of resources related to makerspaces in general.

## What's the deal with making?

In 1984 E. Peter Volpe made an alarming declaration regarding public knowledge of science:

Public understanding of science is appalling...The inability of students to appreciate the scope, meaning, and limitations of science reflects our conventional lecture-oriented curriculum with its emphasis on passive learning...What is urgently needed is an educational program in which the students become interested in actively knowing, rather than passively believing.<sup>6</sup>

Recent criticism of this lasting educational model and American students' continued struggle to master STEM courses is evidence that lecture-based courses may not be an

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<sup>6</sup> E. Peter Volpe, "The Same of Science Education," *American Zoology* 24 (1984): 433.

appropriate tool to tackle complex scientific knowledge.<sup>7</sup> Active, or hands-on, learning is a term found throughout making literature and is an approach to education that the maker movement promotes. Active learning “encourages the pupil or student to engage actively with what is being learned through activities such as group discussion, role play, or experimentation, rather than passively receiving and memorizing knowledge or instruction from the teacher...”<sup>8</sup> This learning-by-doing approach is not just a great idea. Studies from cognitive psychologists suggest that “students learn best when they are actively engaged.”<sup>9</sup> In his 2009 address to the National Academy of Sciences, President Obama discussed the issue of active learning and the need for students engagement with science stating, “I want all of us to think about new and creative ways to engage young people in science and engineering, whether it’s science festivals, robotics competitions, fairs that encourage young people to create and build and invent – to be makers of things, not just consumers of things.”<sup>10</sup> Makerspaces are an answer to this call. A recent EDUCAUSE article reflected on the the hands-on character of makerspaces and described them as “the perfect educational space for individuals who learn best by doing...When these spaces are open to use by faculty, students, and staff from a cross-section of content areas, they promote multidisciplinary thinking and learning, enriching

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<sup>7</sup> Joel Michael, “Where’s the Evidence that Active Learning Works?” *Advances in Physiology Education* 30 (2006): 159, available from doi: 10.1152/advan.00053.2006, accessed March 13, 2014.

<sup>8</sup> “active learning,” in *A Dictionary of Education*, Susan Wallace, ed. Oxford University Press (2009).

<sup>9</sup> Nadine M. Lambert and Barbara L. McCombs, eds., *How Students Learn: Reforming Schools Through Learner-Centered Education*, Washington, D.C.: American Psychological Association (1998): 217. For more articles related to this topic, consult Joel Michael’s “Where’s the Evidence that Active Learning Works?” See Alice Y. Kolb and David A. Kolb’s “Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education,” *Academy of Management Learning & Education* 4, no. 2 (June 2005) for a good overview of “experiential learning.”

<sup>10</sup> President Barack Obama quoted in “The Maker Movement,” Margaret Honey and Eric Siegel, *Education Week* 30, no. 19 (2011), available from Academic Search Complete, accessed June 13, 2013.

projects that are built there and the value of the makerspace as an educational venue.”<sup>11</sup>

As educational venues, it makes sense for these mashups of workshops, art studios and science labs to be located at schools. Many librarians have also argued that makerspaces belong in the libraries of the schools that they serve.

## **Making in Libraries?**

One cannot discuss the transition of makerspaces into academic libraries without discussing the changing nature of libraries. In “Do Makerspaces Add Value to Libraries?” Janet Balas suggests “libraries are evolving from places that house materials to places where users can work.” Likewise, the type of working done in libraries is changing. Balas continues stating, “Libraries are not just places for the quiet study of scholarly materials, but they can also be places where the creation of audio or video presentations can take place. In the case of some extremely innovative libraries, they can also be places for making actual physical objects.”<sup>12</sup> Lauren Britton echoes this sentiment in her description of the changing nature of librarianship, “Librarians are not curators of books, we are leaders in our communities, who are able to provide services and access that are not available anywhere else.”<sup>13</sup>

As libraries adapt to the changing needs of their patrons, the technology in libraries changes. Computers, printers, scanners are all commonplace in academic libraries and 3D printers are quickly becoming the next “gotta have” product. One

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<sup>11</sup> “7 Things You Should Know About Makerspaces,” EDUCAUSE Learning Initiative (April 2013), available from <http://www.educause.edu/library/resources/7-things-you-should-know-about-makerspaces>, accessed June 14, 2013.

<sup>12</sup> Janet L. Balas, “Do Makerspaces Add Value to Libraries?” *Computers in Libraries* 32, no. 9 (November 2012): 33, accessed June 13, 2013, Academic OneFile.

<sup>13</sup> Britton, “A Fabulous Libratory.”



argument for adopting this technology is that locating 3D printers in libraries democratizes access. While some university departments may provide their students access to 3D printers, locating a 3D printer in the university's library ensures that all students have access to this technology, regardless of their major. Libraries are "in a unique position to be able to leverage the wealth of learning and opportunities for knowledge creation that access to such technology can provide in a way that most individual departments are not."<sup>14</sup> Fisher echoes this sentiment stating, "By integrating makerspaces into libraries, we can support and expand opportunities for hands-on experimentation and learning. We can provide spaces *for all students, no matter their major*, to 'work through problems in a repeated process of brainstorming, testing solutions, and going back to the drawing board.'"<sup>15</sup>

Libraries and makerspaces have a lot in common. As Tracey Wong describes in "Makerspaces Take Libraries by Storm," "Libraries are the embodiment of learning in a collaborative community...Makerspaces provide libraries with the opportunities to create, experiment, and acquire or perfect new skills."<sup>16</sup> With a joint focus on collaboration and open access tools, libraries are a natural choice to house makerspaces. However, with a primary goal of educating and supporting student research, academic libraries may be an even more perfect match for makerspaces. As Erin Fisher suggests in "Makerspaces Move into Academic Libraries," "At the heart of academic libraries lies a

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<sup>14</sup> Lisa Kurt and Tod Colegrove, "3D Printers in the Library: Toward a Fablab in the Academic Library," *ACRL TechConnect Blog* (July 17, 2012), accessed June 14, 2013, available from <http://acrl.ala.org/techconnect/?p=1403>.

<sup>15</sup> Erin Fisher, "Makerspaces Move into Academic Libraries," *ACRL TechConnect Blog* (November 28, 2012), accessed June 12, 2013, available from <http://acrl.ala.org/techconnect/?p=2340>. Author's emphasis.

<sup>16</sup> Tracey Wong, "Makerspaces Take Libraries by Storm," *Library Media Connection* 31, no. 6 (May/June 2013), accessed June 12, 2013, EBSCO Host.

commitment to growth, learning, and exploration. Academic libraries in particular strive to be the intellectual hub of campus—a place where students, faculty and staff from all disciplines can gather to explore, create and gain new knowledge.”<sup>17</sup>

Information literacy has long been a focus of libraries. Lauren Britton suggests “Makerspaces give [librarians] a way to promote new forms of literacy, to help our patrons communicate across a range of platforms that are necessary for success.”<sup>18</sup> In their focus on education, *Makerspace Playbook* suggests a goal of makerspaces should be to “build your Makerspace users’ literacy in design, science, technology, engineering, art and math.”<sup>19</sup> The collaborative nature of makerspaces, however, values student or user-led instruction as much as the librarian-as-teacher model. Author Cory Doctorow suggests libraries should be “information dojos, where communities come together to teach each other black-belt information literacy.”<sup>20</sup> In other words, users as well as librarians assist in the promotion of literacy of new technologies and ideas.

## **What’s in a makerspace?**

Makerspaces utilize a variety of tools to promote making and collaborative thinking. Literature related to school libraries suggests libraries should stock their makerspaces with vinyl cutters, sensors, hot glue guns, joints, saws motors, and wires, among other tools.<sup>21</sup> These items are relatively inexpensive, often reusable and have unlimited potential for making. It is difficult to locate an article related to makerspaces in

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<sup>17</sup> Fisher, “Makerspaces Move into Academic Libraries.”

<sup>18</sup> Britton, “A Fabulous Laboratory.”

<sup>19</sup> Michelle Hlubinka et al. *Makerspace Playbook*, Maker Media, 2013, accessed June 12, 2013.

<sup>20</sup> Hiten Samtani, “Meet the Makers: Can a DIY Movement Revolutionize How We Learn?” *School Library Journal* 59, no. 6 (June 2013), accessed June 19, 2013, Academic OneFile.

<sup>21</sup> Samtani. See also Michelle Hlubinka et al. *Makerspace Playbook*.

public or academic libraries that does not reference a 3D printer. While makerspaces are not defined by the presence of a 3D printer, for many, obtaining a 3D printer is the first step in the establishment of the space. 3D scanners, Arduinos, laser cutters, and milling machines are also suggested as equipment for library makerspaces.<sup>22</sup> Makerspaces also often have lounge or meeting areas to facilitate collaboration. Makerspaces not housed in libraries, such as 3,000 square foot Georgia Tech's Invention Studio, can have even larger and louder equipment, such as waterjet cutters, injection molders, and thermoformers.<sup>23</sup>

Makerspaces appear to be one of the fastest growing trends in libraries. Few librarians have questioned libraries' embrace of the maker movement. Meredith Farkas, however, wondered whether makerspaces would be the next quickly forgotten fad stating, "In 2006, every library had to have a blog. By 2008, every library had to have a Facebook page and a gaming program or collection. Right now, makerspaces are all the rage. And by 2014 it'll be something else."<sup>24</sup> Only time will tell how long this maker movement will last.

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<sup>22</sup> "Cool Stuff to Outfit Your Makerspace," *American Libraries* 44, no. 1-2 (January-February 2013), accessed March 31, 2014, Academic OneFile; Travis Good, "Three Makerspace Models that Work," *American Libraries* 44, no. 1-2 (January-February 2013), accessed March 31, 2014, Academic OneFile; see also Erin Fisher, "Makerspaces Move into Academic Libraries."

<sup>23</sup> Dale Dougherty, "Georgia Tech's Makerspace is a Model for Higher Education," *Make* blog (March 28, 2013), accessed June 14, 2013, available from <http://blog.makezine.com/2013/03/28/georgia-techs-makerspace-is-a-model-for-higher-education/>.

<sup>24</sup> Meredith Farkas, "In Practice. Spare Me the Hype Cycle," *American Libraries* 44, no. 5 (May 2013), accessed June 14, 2013, EBSCO Host.

## **Methodology**

This paper presents a survey of the field of makerspaces in academic libraries. In an effort to understand why some academic libraries have established makerspaces, how makerspaces fit into the larger institutional structure of academic libraries, and how libraries are utilizing makerspaces as pedagogical tools, a survey of academic library makerspaces was conducted.

## **The Survey**

The survey was composed of eight open-ended and two multiple choice questions and was created to take approximately 10-15 minutes to complete. Responses were anonymous, although participants were requested to provide the name of the library for which they were answering questions. A final question allowed participants to submit their name and email address for a potential follow-up interview. Participants were advised that if they submitted personal information, their responses were no longer anonymous. To view the complete survey, consult the appendix.

## **Distribution**

The survey was distributed via Facebook, a listserv, and email. Within Facebook, the survey was posted in the “MakerSpaces and the Participatory Library” and the “Technology Training and Libraries” group on March 5, 2014.<sup>25</sup> Upon the

recommendation of a Facebook commenter, the survey was posted in the “ALA Think Tank” group on March 11, 2014.<sup>26</sup> The survey was also posted on the University of Florida’s “LIBRARYMAKERSPACE- L List,” a makerspace listerv, on March 6, 2014.<sup>27</sup> When the names and locations of academic library makerspaces was known, a survey was sent directly to library staff via email. In almost every case, the libraries that received survey invitations via email had previously received media attention for their makerspaces, such as the University of Nevada at Reno and the University of Mary Washington. The survey closed on March 21, 2014 after being live for thirteen business days.

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<sup>25</sup> MakerSpaces and the Participatory Library’s Facebook page, accessed March 5, 2014, <https://www.facebook.com/groups/librarymaker/>; Technology Training and Libraries’ Facebook page, accessed March 5, 2014, <https://www.facebook.com/groups/215892381802232/>.

<sup>26</sup> ALA Think Tank’s Facebook page, accessed March 11, 2014, <https://www.facebook.com/groups/ALAtinkTANK/>.

<sup>27</sup> University of Florida, “LIBRARYMAKERSPACE-L List,” available from <http://lists.ufl.edu/cgi-bin/wa?A0=LIBRARYMAKERSPACE-L>, accessed March 23, 2014.

## Findings

The survey received twelve respondents.<sup>28</sup> The questions with the highest numbers of respondents received ten responses; the least answered questions received six responses. Participating libraries included:<sup>29</sup>

- Business, Engineering, Science and Technology Library, Miami University
- Embry Riddle Aeronautical University
- College of San Mateo
- North Carolina State University Libraries
- Pendergrass Agriculture & Veterinary Medicine Library
- Penfield Library, SUNY Oswego
- Simpson Library at the University of Mary Washington
- University of Michigan Library

There are many possibilities as to why this survey did not receive more responses. The open-ended nature of many of the questions could have discouraged participation, the survey may not have been distributed enough, or the length of the survey could have been too long.

As the maker movement has grown in popularity so too have makerspaces. So it makes sense that 80 percent of respondents indicated that their library makerspaces

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<sup>28</sup> Thirty-five people started, or clicked on, the survey; however only twelve people completed the survey.

<sup>29</sup> This is only a partial list, as providing the name of the library for which the respondent answered questions was optional.

opened within the past 3 years. Fifty percent of respondents indicated that their library makerspaces opened last year, in 2013. (Figure 1) One respondent indicated their academic library makerspace opened in 2003, this is an anomaly and a surprising result.

### In what year did the makerspace open at your academic library?

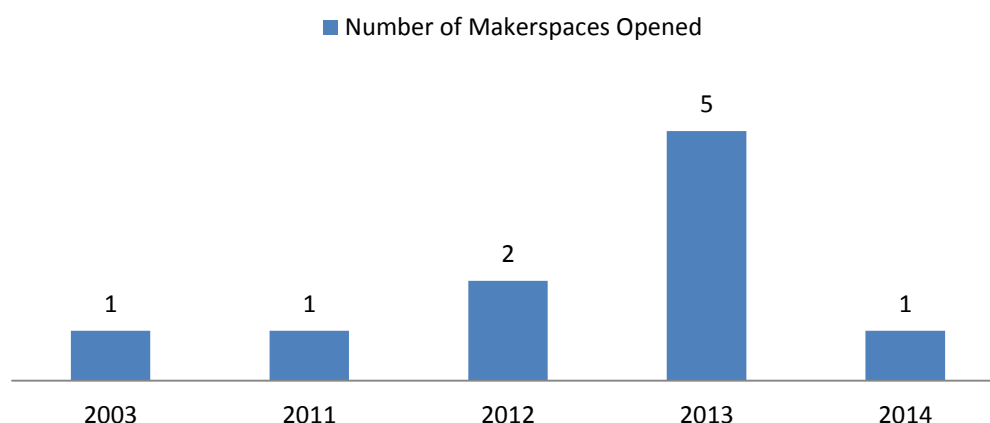


Figure 1 – (This question received 10 responses.)

When asked about how their library's makerspace supports their library's mission, responses echoed the reasons described in the literature. As the literature argues, placing technology in the library provides students access regardless of their major. A respondent compared the democratization of technology to the availability of the library's entire collection stating the library is a "central location of shared resources." Another respondent stated, "Offering a 3D print service identifies with the [library's] mission statement of empowering big ideas in that it makes the *technology accessible* as well as exposing users to other like-minded individuals."<sup>30</sup> Another respondent provided a similar response, "By incubating a makerspace in our library, we feel that we are exposing students from *all instructional areas* (rather than specific disciplines like

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<sup>30</sup> Author's emphasis.

engineering or electronics) to cutting edge technologies and methods of instruction and learning.”<sup>31</sup> One respondent described library makerspaces as a way to “avoid opportunity cost to the university community of too much equipment being hidden away in various depts. And labs, out of sight and reach of potential users.” Fifty percent of respondents cited the democratization of resources as one of the reasons how their library makerspace supports the library’s mission.

Respondents also indicated that makerspaces were necessary in effort to keep up with the changing needs of their patrons and to support ongoing scholarship. One respondent described, “3D printing also meshes with the strategic initiative of developing and maintaining robust facilities in support of teaching and learning as well as the initiative to lead and partner in campus technology innovation.” Another respondent reasoned their library’s makerspace was in keeping with the library’s goal to “define the leading edge of information services.” Twenty-five percent of respondents described their academic library as a sort of technology hub for the university. Figure 2 visualizes the responses to “Please describe how you think your academic library’s makerspace supports (or does not support) your library’s mission.” The words “learning,” “innovation,” “technology,” “students,” and “scholarship” featured prominently in responses.

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<sup>31</sup> Author’s emphasis.





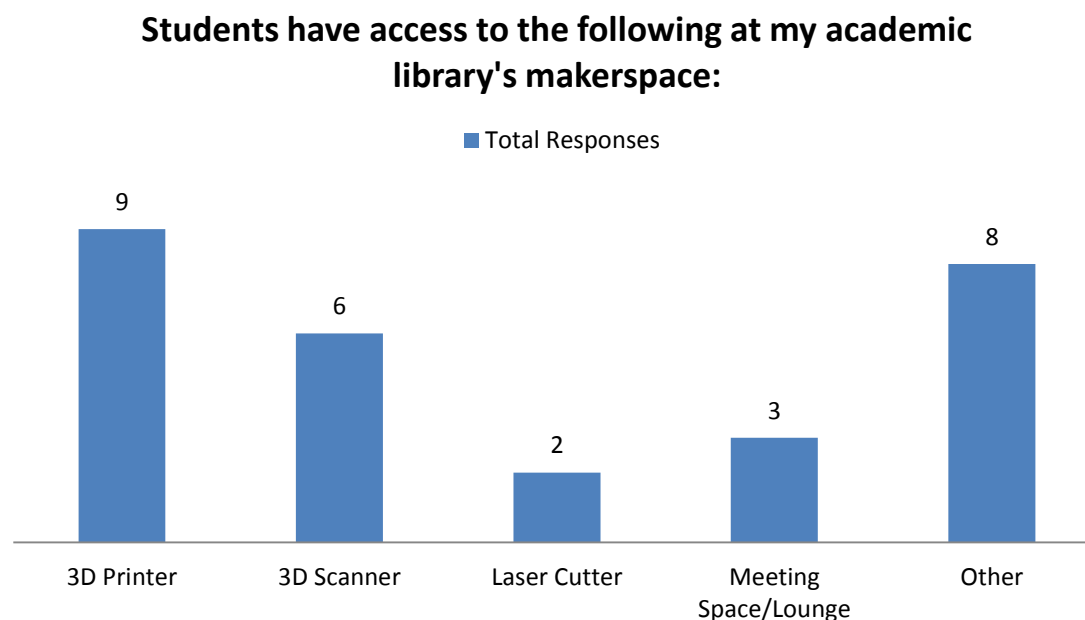


Figure 3 – (This question received 10 responses.)

Many libraries use their makerspaces as teaching tools, offering courses and workshops. Approximately 85 percent of respondents indicated that their library's makerspace offers students workshops. (Figure 4) This is no surprise considering libraries have a history of providing patrons instruction sessions. One third of respondents indicated that user interest determines the topics of makerspace workshops. Approximately 83 percent of respondents indicated that their library makerspace offered instruction on 3D printing. Other courses workshop topics included: sound/video editing, introduction to Arduino, electronics prototyping, origami, and SketchUp. One respondent indicated that their library's makerspace offered students courses for credit. The for-credit course, called "Makerbots and Mashups," "introduces all the tools to the students through a series of guided lessons and projects culminating in a final project that incorporates several different tools." It appears to be much less common for academic library makerspaces to offer courses for credit. "Other" responses included: online

tutorials/training, and individual appointments for training. One respondent described how makerspace staff found it “really useful to offer consultation on 3D modeling, as some potential users do not have the skill set to design models suitable for printing.”

### **My academic library's makerspace offers students:**

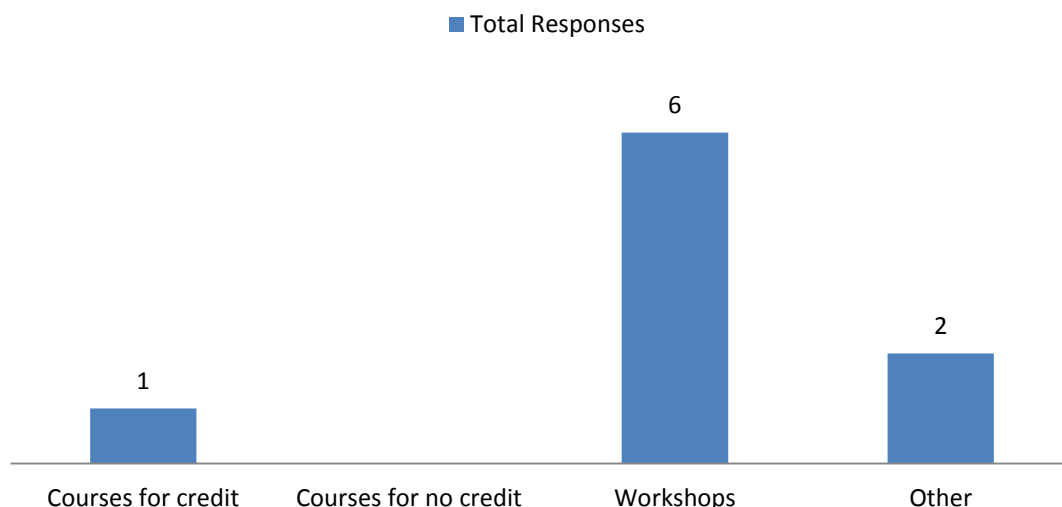


Figure 4 – (This question received 7 responses.)

Survey results indicated that librarians primarily served as makerspace workshop and course instructors. Interestingly, all respondents indicated that librarians had received no formal training and relied on their previous experience working with various tools. One respondent indicated, “For leaders without experience, we steer them towards very easy activities, such as cyanotype printing.” Students also served as instructors of workshops. Respondents indicated that students came to their positions with “advanced” skills or were taught by librarians. Figure 5 visualizes responses to “Who is responsible for teaching the workshop/courses available through your academic library makerspace? What type of training do they receive?”



Figure 5

In their final comments, some respondents made particularly interesting observations. In regards to packaging technology into one makerspace, one respondent stated, “I wish the library world would stop seeing makerspaces as a separate room...our library puts machines in corners, nooks and unused offices. It’s been very successful without needing a renovation.” This approach views the library itself as a makerspace. Future studies may investigate possible changes in use of technology such as 3D printers in library makerspaces and other library spaces. Another respondent questioned the conversation surrounding 3D printers as revolutionary educational tools stating, “Students can learn how to work collaboratively and creatively no matter what tool you give them, it just happens that right now they’re incredibly engaged by this maker technology and that’s a great thing that we can use as a tool to enhance their learning and build community.”

## **Conclusion**

Just like makers themselves, no two academic library makerspaces are the same. However, many academic libraries use the same rationale to justify the presence of makerspaces within their libraries. The democratization of technology, the maintenance of the library's perception as a leader in technology innovation, and continued support of scholarship are the most cited reasons for including a makerspace in an academic library of the libraries surveyed. In an effort to strengthen patrons' skills with growing technology, academic libraries most often employ the use of workshops and consultations. The librarians leading these instructional sessions often do so without any formal training. With a steady increase in academic library makerspaces opening within the past three years, one may assume that the trend would continue to increase in the coming years as technologies such as 3D printers become less expensive.

Future studies may want to focus on whether libraries continue to follow this makerspace model. Researchers may want to focus on the impact of learning space and how combining these technologies in one space fosters creativity and learning.

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## Appendix

### Survey

INTRO: The purpose of this survey is to learn more about makerspaces in academic libraries. To complete this survey your academic library must have a makerspace. The survey should take between 10-15 minutes. This research is conducted under the supervision of Dr. Ron Bergquist at UNC-Chapel Hill. Participation is voluntary and responses will be kept anonymous. The records of this study will be kept private. In any sort of report we make public we will not include any information that will make it possible to identify you. You have the option to not respond to any questions that you choose. Participation or nonparticipation will not impact your relationship with the University of North Carolina at Chapel Hill. Submission of the completed survey will be interpreted as your informed consent to participate and that you affirm that you are at least 18 years of age. If you have questions about this survey, please contact Samantha Rich at [snrich@live.unc.edu](mailto:snrich@live.unc.edu).

1. In what year did the makerspace open at your academic library?
2. In what department is your makerspace located within your academic library?
3. Please describe how you think your academic library's makerspace supports (or does not support) your library's mission:
4. Please describe the goals and objectives of your academic library's makerspace:
5. Students have access to the following at my academic library's makerspace:
  - 3D printer
  - 3D scanner
  - laser cutter
  - self-publishing machine (ex: Espresso)
  - meeting space/lounge
  - Other: \_\_\_\_\_
  - Other: \_\_\_\_\_
  - Other: \_\_\_\_\_
  - Other: \_\_\_\_\_



6. My academic library's makerspace offers students:

- ☐ Courses for credit
- ☐ Courses for no credit
- ☐ Workshops
- ☐ None of the above
- ☐ Other: \_\_\_\_\_

Answer If My university library's makerspace offers students: None of the above Is Not Selected

7. Please describe the types of workshops/courses that are available through your academic library's makerspace. What types of skills do students learn through these workshops?

Answer If My university library's makerspace offers students: None of the above Is Not Selected

8. Who is responsible for teaching the workshops/courses available through your academic library makerspace? What type of training do they receive?

9. If there is anything else you would like to share about your academic library's makerspace, the maker movement, the role of makerspaces in academic libraries, or the workshops/courses available through your library's makerspace, please use this space:

10. What is the name of your academic library?

11. If you are interested in participating in a follow up interview about academic library makerspaces, please provide your contact information below. Note: When you provide your contact information, your responses are no longer anonymous.

Name:

Email address:

## **Participating Libraries**

- Business, Engineering, Science and Technology Library, Miami University
- Embry Riddle Aeronautical University
- College of San Mateo
- North Carolina State University Libraries
- Pendergrass Agriculture & Veterinary Medicine Library
- Penfield Library, SUNY Oswego
- Simpson Library at the University of Mary Washington
- University of Michigan Library

(In alphabetical order)